DOCUMENT RESUME

ED 361 161 RC 019 321

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TITLE	Remapping the Terrain: School Size, Cost, and Quality.
PUB DATE	92
NOTE	20p.; In: Source Book on School and District Size, Cost, and Quality, see RC 019 318.
PUB TYPE	Information Analyses (070) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Community Development; Consolidated Schools; *Cost Effectiveness; Educational Quality; Elementary Secondary Education; Rural Areas; Rural Development; *Rural Education; Rural Schools; School Closing; *School Community Relationship; *School Size; Shared Resources and Services
IDENTIFIERS	Cluster Schools; *Community Viability

ABSTRACT

The usual opposing perspectives on the school-size debate focus on economies of scale and school climate. This paper examines school size, educational cost, and quality from a third perspective, that of maintaining healthy viable communities. Rural schools and rural communities are tightly linked and highly interdependent. The school is one of the largest economic enterprises in many rural communities and is often the only viable public service agency. Nevertheless, for many rural communities, public education becomes a one-way flow of resources as educated young people leave to find employment elsewhere. Eventually, the community withers and dies. It is apparent that rural education must be redesigned to be of high quality and yet not extractive of human resources in support of the urban labor force, and that the notion of educational cost effectiveness must be recast in terms that include community development. One approach to involving schools in community development is to use the community as a focus of study. The local environment becomes a part of the school curriculum, a laboratory for learning about the real world. At the same time, student projects may return immediate benefits to the community. With this approach, "costs" become investments in the community's future. Where larger numbers would produce economies of scale, these economies can be realized by forming clusters of schools to share resources. The different educational functions of the school district may be separated and reorganized to increase efficiency. An appendix gives examples of clustering. (SV)

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ED 361 161

Remapping the Terrain: School Size, Cost, and Quality

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RC 019321

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Introduction

> There are two important streams of research on school size. The first reflects an economies of scale argument about schooling, including concerns about the available resource strength of the school and possibilities for specialization of instructional programs. The second line of work directs attention to the influences of size on the bureaucratic formalization of social interactions within the school, and the consequences which flow from this. These two perspectives on school size lead in opposite directions. The economies of scale argument implies that benefits for academic learning should occur as a result of the consolidation of effort in larger schools. In contrast, the social interactional focus suggests that 'small is beautiful', with greater informality and higher levels of social engagement more likely in such settings. - *High School Organization and its Effects on Teachers and Students*, Anthony Bryk, et al.

The debate resulting from these two perspectives is ongoing and, as a headline of a Chicago paper announced on the recent presidential debates, it has resulted in "Lots of Fury, But No Knock-out Punches." In all probability, this will continue to be the case, for where one stands on this issue is determined by where one begins the argument. If one enters the argument from a traditional, industrial, *organizational* perspective, the only possible conclusion is that there are economies of scale to be realized from consolidating small schools into larger schools. This assertion is given some credence by Fox (1981) and others who suggest that very small schools/districts may experience higher per pupil costs than mid-range size schools. Just where the diseconomies of scale begin to kick in is very much dependent on the contextual variables of isolation and terrain. There are similar findings at the other end of the scale, with very large districts also experiencing higher costs but for a different set of contextual reasons, e.g., a disproportionate number of students with special needs.

Imbedded in the industrial organizational perspective is the conventional wisdom that bigger is better. Quantity is equated with quality. The more courses offered, the more specialized the teachers, the more books in the library, the better the education. And the work of Monk and Haller (1986) would suggest that that may indeed be true, up to a certain point—the point of diminishing returns being reached as high school enrollments (top four grades) approach 400.

If, on the other hand, one enters this debate from the perspective of the individual student, the above arguments are not very persuasive. Barker and Gump (1964), in the early sixties, argued that central to good education is the engagement of students in the various aspects of the schooling process. As might be expected, the proportion of students who participated in district music festivals and dramatic, journalistic, and student government competitions was highest in high schools with enrollments between 61 and 150, with participation being three to twenty times as great as in schools of 2,000 or more. What was surprising, however, was that academically, small-school students took more courses, with greater variety, than urban students who tended toward more specialized programs even though large schools offer a greater range of courses. The authors concluded that "it may be easier to bring specialized and varied behavior settings to small schools than to raise the level of individual participation in large schools."

There are studies upon studies, most often conducted at the state level, and most often triggered by school finance and/or school consolidation, which try to deliver the knock-out blow as to whether or not large schools or small schools offer better quality programs or are more, or less, costly. None have been successful. The answer is always "It depends." What does seem to be clear is that chasing the dream of optimal size is not productive; quality education can be found in small schools as well as large schools.

After reviewing the research on size, cost, and quality, I am persuaded that (1) seeking economies of scale through school consolidation are, at best, elusive, (2) as we pursue school reform in search of better education, increasing numbers may increase, not decrease costs, (3) to the extent that closing schools contributes to the demise of rural communities, the dollars saved are a high price to pay for the loss of those communities.

In the remainder of this paper, I would like to advance a third stream of thinking concerning the questions of school/district size, cost and quality—a stream which looks at this set of issues from the perspective of the community or the society served by public education. More specifically, I would like to discuss the issues of school/district size, cost, and quality from the perspective of **maintaining healthy viable communities.**

Sustainable Communities

This stream of thinking is based on two propositions. First, **the fabric of society consists of healthy, viable communities inhabited by productive, informed citizenry concerned with the well-being of others and the condition of the planet as well as their own self-interests.** Second, **a necessary component of a healthy, viable community is a quality system of education.**

The concept of community has many different dimensions and meanings. It is the place where we live, and it is a group of people who hold similar values. Community is where we work and where we play, where we educate our children, where we go to the doctor, and where we attend church. It is where we produce and purchase goods and services. The adequacy of a community tends to be defined by the extent to which the many functions and dimensions of

community life are fulfilled. However, with the industrialization of society, the functions of community have become more and more specialized. There are products to be purchased and services to be performed that can only be found in a limited number of places (for example, organ transplants). And, while local communities were at one time more economically self-sufficient, it is now accepted that they are a part of a regional, if not international, economy.

With the unfolding of industrialization, rural communities became the headwaters for an extractive society. Agriculture, mining, fishing, and forestry all remove resources from rural areas to support life in urban areas. Public education, both in what it has taught and the process of schooling, has extracted the human resources to fill the needs of an urban/industrial labor force. As long as natural resources were perceived to be unlimited, and as long at the urban labor force continued to expand, this system worked, at least for urban America. It was never in the interests of rural America. And now the limits on resources, the limits of industrialization, and the interests of rural people converged, forcing us to reexamine the usefulness of these policies and practices.

The dynamics of an extractive society resulted in pitting rural communities against urban communities in a zero sum game. Rural interests inevitably lost. Daniel Kemmis in *Community and the Politics of Place* argues that we no longer have the luxury of choosing up sides. The health of an urban area is dependent upon the health of the surrounding rural areas which that urban area serves. Economies, to be viable, must consider the well-being of rural communities as well as urban communities that exist within a geographic region. Unfortunately, for many rural communities there have been no good choices. On the one hand, there are those communities that are caught in the downward economic spiral with the accompanying decline

in population. Absent a change in dynamics, these communities will continue to get smaller and smaller and eventually die. On the other hand, there are those rural communities in recreation areas or adjacent to urban centers that are growing up to be cities, losing their rural characteristics. If we are to maintain a viable rural sector in society, we must find the middle ground, assisting communities to become sustainable within the ecological limits of that particular place.

Sustainability is a concept that arose in agriculture as a reaction to the industrial-model, "production at all costs" emphasis of agricultural policy in this country. Defined as a process, the goal of sustainable agriculture is permanence in production, stewarding the land with an emphasis on its carrying capacity and renewal (Strange, 1991). Communities must also be concerned with the notions of carrying capacity and renewal.

A reaction to the sense of loss of community life appears to be a growing desire to find ways of creating new order in our lives, to reestablish a sense of coherence in how we live. What is the role of schooling in working towards the establishment of sustainable communities? Can schools provide students with a high quality education as they perform this function? At what costs? The remainder of the paper will focus primarily on rural communities since they are most obviously at risk. Three areas will be discussed: the relationship between schools and communities, an emerging definition of educational quality that is based on that relationship, and the interactions among size, cost, and quality. The general notions presented are equally important for larger urban and suburban communities.

Schools and Communities

Rural schools and rural communities are tightly linked and highly interdependent. A strong, vital rural community is dependent on a high quality education program. In order to have a high quality education program, one must have a strong, vital community to provide the necessary resources for the operation of that school. We know that when a community loses its school, a severe blow has been dealt that community's future. In many, if not most, rural communities the school is one of the largest economic enterprises in the community. It has the largest budget, often the finest facility, the largest cadre of well-trained personnel. It is often the only remaining viable public service agency connecting the community to the grid of public services. A fairly obvious concern of rural communities is, or ought to be, how well do these institutions serve the rural community? Where do the financial resources get spent, either directly by the district or by those on the payroll? How many of these public dollars feed back into the local economy?

As important as these resources are to the economy, much more important is what happens as a result of the educational process. We invest our tax dollars and the community's most precious resource, its young people, in the system of public education and then measure our success by how many of the graduates leave to continue their education or find employment elsewhere. Most of them never return. <u>If this one-way flow of resources continues long enough, the rural community withers away and dies.</u> And across the country this is exactly what has happened. So if the larger educational cost issues relate to maintaining viable rural communities, the question becomes: Can education be redesigned in such a way that it is of high quality and not extractive of human resources in support of an urban industrial labor force?

Can the cost/effectiveness issues that drive school consolidation be recast in terms that include community development?

What Do We Mean By Quality Education?

Before we can talk about school and district size, cost, and quality, some discussion is needed concerning what we mean by **quality of education.** A legacy of industrialization and its inherent need for specialization has been the disconnectedness of education from the ongoing life of society and the communities which it is to serve. Elie Wiesel, in an address to the Global Forum in Moscow, recently said of education: "It emphasizes theori nstead of values, concepts rather than human beings, abstraction rather than consciousness, answers instead of questions, ideology and efficiency rather than conscience." David Orr, in *What Is Education For?* discusses six new principles to guide the future direction of education, principles which, I would suggest, could serve as the basis for determining quality of education (emphasis added).

> *First, all education is environmental education.* By what is included or excluded we teach students that they are part of or apart from the natural world. To teach economics, for example, without reference to the laws of thermodynamics or those of ecology is to teach a fundamentally important ecological lesson: that physics and ecology have nothing to do with the economy. That happens to be dead wrong. The same is true throughout all of the curriculum.
>
> A second principal comes from the Greek concept of *paideia. The goal of education is not mastery of subject matter, but of one's person.* Subject matter is simply the tool. Much as one would use a hammer and chisel to carve a block of marble, one uses ideas and knowledge to forge one's own personhood. For the most part we labor under a confusion of ends and means, thinking that the goal of education is to stuff all kinds of facts, techniques, methods, and information into the student's mind, regardless of how and with what effect it will be used. The Greeks knew better.

Third, I would like to propose that *knowledge carries with it the responsibility to see that it is well used in the world.* The results of a great deal of contemporary research bear resemblance to those foreshadowed by Mary Shelley: monsters of technology and its byproducts for which no one takes responsibility or is even expected to take responsibility. Whose responsibility is Love Canal? Chernobyl? Ozone depletion? The Valdez oil spill? Each of these tragedies was possible because of knowledge created for which no one was ultimately responsible. This may finally come to be seen for what I think it is: a problem of scale. Knowledge of how to do vast and risky things has far outrun our ability to use it responsibly. Some of it cannot be used responsibly, which is to say safely and to consistently good purpose.

Fourth, *we cannot say that we know something until we understand the effects of this knowledge on real people and their communities.* I grew up near Youngstown, Ohio, which was largely destroyed by corporate decisions to "disinvest" in the economy of the region. In this case MBAs, educated in the tools of leveraged buyouts, tax breaks, and capital mobility have done what no invading army could do: they destroyed an American city with total impunity on behalf of something called the "bottom line." But the bottom line for society includes other costs, those of unemployment, crime, higher divorce rates, alcoholism, child abuse, lost savings, and wrecked lives. In this instance what was taught in the business schools and economics departments did not include the value of good communities or the human costs of a narrow destructive economic rationality that valued efficiency and economic abstractions above people and community.

My fifth principle follows and is drawn from William Blake. It has to do with *the importance of "minute particulars" and the power of examples over words.* Students hear about global responsibility while being educated in institutions that often invest their financial weight in the most irresponsible things. The lessons being taught are those of hypocrisy and ultimately despair. Students learn, without anyone ever saying it, that they are helpless to overcome the frightening gap between ideals and reality. What is desperately needed are faculty and administrators who provide role models of integrity, care, thoughtfulness, and institutions that are capable of embodying ideals wholly and completely in all of their operations.

> Finally, I would like to propose that *the way learning occurs is as important as the content of particular courses.* Process is important for learning. Courses taught as lecture courses tend to induce passivity. Indoor classes create the illusion that learning only occurs inside four walls, isolated from what students call without apparent irony the "real world." Dissecting frogs in biology classes teaches lessons about nature that no one would verbally profess. School architecture is crystallized pedagogy that often reinforces passivity, monologue, domination, and artificiality. My point is simply that students are being taught in various and subtle ways beyond the content of courses.

During the past four years, the Rural Institute of the Mid-continent Regional Educational Laboratory, has been developing a program called **Rural Schools and Community Development.** Imbedded in this program are many of the notions included in the above principles. For instance, a central notion to involving the schools and, more specifically, the students in community development is the idea of using the community as the focus of study. The local environment (social, physical, economic) becomes a part of the school curriculum. Students become involved in investigating real community issues, using the subject matter as tools for problem solving. Teachers become co-learners with students. The line between teacher and students, between school and the real world becomes less well-defined.

Not only are these real life learning experiences more powerful, they very often result in immediate benefits to the local community. Students in a school in Alabama monitor water quality at the request of the county government. An economics class in Custer, South Dakota, assisted the Chamber of Commerce in preparing an application to FmHA for low-cost housing for seniors, which has now been built. In Rothsay, Minnesota, students now run businesses that would not otherwise be providing goods and services in their small town.

Using the community as a laboratory for learning does not mean that the education provided is a parochial education. Rather, it is the finest kind of rehearsal for participation in a democratic society. As students understand the concept of sales leakage at the community level, they are more likely to understand more abstract concepts such as the national balance-of-payments. Understanding the interrelationships of the local ecology transfers readily into understanding the issues facing the global ecology. Becoming a valued participant in the social discourse of the local community is the first step in becoming an active participant in the state and national scene. Individuals learn to appreciate that which they know and are a part of.

Wallace Stegner, noted author of the American West, in his book *Wolf Willow*, talks eloquently about the importance of understanding the place where he grew up.

> What strikes me is the fact that the information I was gaining from literature and from books on geography and history had not the slightest relevance to the geography, history, or life of the place where I lived. Living in Cypress Hills, I did not even know I lived there, and hadn't the faintest notion of who had lived there before me. But I could have drawn you a crudely approximate map of the Baltic, recited you Tom Moore songs or Joaquin Miller's poem on Columbus, or the misfortunes of the Sabine women.
>
> History was something that was applied to other places. It would not have seemed reasonable to any of the town's founders to consider any of their activities history, or to look back very far in search of what had preceded them. Time reached back only a few years, to the pre-homestead period of the big cattle ranches. Some ranches had weathered the terrible winter of 1906, and to a child these survivors seemed to have existed forever, floating in an enduring present like the town. For that matter, I never heard of the terrible winter of 1906 until many years later, though it had affected my life for me before I was born. We knew no such history, no such past, no such tradition, no such ghosts. And yet it would be a double error to assume that my childhood had no history, and that I was not influenced by it. For history is a pontoon bridge. Every man walks and works at its building end,

> and has come as far as he has over the pontoons laid by others he may never have heard of. Events have a way of making other events inevitable; the actions of men are consecutive and indivisible.

All communities, from the largest to the smallest, require quality education. The above discussion is my attempt to describe what I believe a quality education would look like. Is such an education affordable for all communities regardless of how small or how big? What of efficiency and effectiveness?

Size, Cost, and Quality

So what about the higher per pupil costs of small scale institutions? There are two important considerations in answering this question. First, if the education provided is in line with the above discussion, preparing students to make a more direct contribution to the economic viability of the local community rather than extracting the economic and human resources from that community, the costs are no longer costs in the traditional sense, but investments in the community's future. Secondly, if it is important that education move in the direction outlined by Orr, small size could very well be a strength, not a problem. Rural communities offer a safe, immediate learning laboratory right outside the school door. (Unfortunately, in many school consolidation scenarios, large educational plants are located out in the middle of nowhere, physically separating the learning experience from the ongoing life of the community.) Supporting our experience in getting schools involved in community development are such noted scholars as Goodlad (1984) and Boyer (1983) who suggest that if real reform is to take place in education, we need fewer, more integrated classes, that are offered for longer periods of time.

What about the other classic argument, that there are dollars to be saved by eliminating top administrative positions, mass purchasing, and increasing student/teacher ratios? Conventional wisdom would suggest that if a state currently has 425 school districts and that number is reduced by half, one would have only half as many superintendents to pay and, therefore, considerable cost savings would materialize even though the number of school settings did not change.

In a major review of research, Chambers (1981) describes two proposed sources of savings from consolidation: decreased administrative and support staff and greater efficiency in procuring materials. His evidence indicates, however, that large schools (as well as large districts) actually increase support and administrative staff to handle the greater bureaucratic demands accompanying their larger size. Further, in rural areas, the greater costs of distributing materials and transporting students to school tend to offset savings from consolidation. Thus, Chambers finds little evidence supporting actual economies of scale in schooling.

Guthrie in his review of research on "economic efficiency" concludes,

> Evidence in favor of cost savings associated with larger size schools and school districts is, at best, ambiguous. In the instance of rural schools, the setting where consolidation has been most dramatic, it is exceedingly unclear that efficiency favors larger organizations. Transportation appears to make the difference.

He goes on to say that

> No study of scale economies of rural schools has attempted to account for increased student transportation time as a consequence of consolidation. In many rural areas, collapse of small schools into larger units has resulted in students riding the school bus up to 60 minutes in each direction. If a price were attached to their time, cost savings in larger rural districts might decline substantially (Guthrie, 1980).

Summary and Recommendations

From having worked in education for over 35 years, administering schools as small as fifty-two students in twelve grades to monitoring foundation grants in the largest cities of the country; from studying the research on school size and quality; and from becoming a student of rural communities in the upper-Midwest, I would offer the following recommendations.

1. That the search for efficiency and effectiveness be refocused from the consolidation of schools to redesigning schools in such a way that they become central players in community development.
2. That schooling become an integrated part of community life, using the community and its environmental context as a laboratory for learning.
3. That where there are economies of scale to be realized (e.g., a critical mass of students needed for specialized advanced courses, musical or drama productions, certain team sports, etc.) that these economies can be realized by forming clusters of neighboring schools for the sharing of teachers, students, specialized instructional resources, and even administrative services, allowing schools to remain in local communities. (See Appendix A for specific examples.)
4. That the notion of the generic school district be reexamined as the structure for delivering education. Because there are different functions inherent in the process of education, organizational structures should be created that can best carry out those functions. For instance, early childhood and elementary education should best be conducted close to where children live. In some instances in the West, one- or two-room schools might still best serve this purpose. Much of secondary education should

take in the context of local communities as discussed above. Specialized courses might best be handled at the level of a cluster of schools. Some purely administrative functions could very well be regionalized.

Size, cost, and quality as they relate to public education are important issues. Population shifts, improved transportation, and the industrialization of society were driving forces in consolidating schools. There are now a different set of forces at work. As we move into a post-industrial age, an age in which there is an increasing recognition of environmental limits, a different kind of education is needed. Having experienced the disconnectedness of our specialized, impersonal society, individuals are seeking to re-form communities. In speaking about reversing these dysfunctional trends, Wendell Berry (1990) in an essay entitled "The Work of Local Culture," says

> My feeling is that if improvement is going to begin anywhere, it will have to begin out in the country and in country towns. This is not because of any intrinsic virtue that can be ascribed to rural people, but because of their circumstances. Rural people are living, and have lived for a long time, at the site of the trouble. They see all around them, every day, the marks and scars of an exploitive national economy. They have much reason, by now, to know how little real help is to be expected from somewhere else. They still have, moreover, the remnants of local memory and local community. And in rural communities there are still farms and small businesses that can be changed according to the will and the desire of individual people.

Improvement cannot take place without quality education, education that is community based. We cannot afford the costs of not providing this kind of education. Indeed, if properly done, it is not a cost but an investment in community development.

Appendix A

Clustering: Neighboring Schools Working Together

Traditionally in rural areas, when a job is too large to accomplish alone, people band together to get the job done. In the past, raising a barn or harvesting the crops could be accomplished more efficiently when nearby folks worked cooperatively. The Rural Institute has applied this notion to address the needs for rural school redesign and community development.

Working together

- Expedites the exchange of ideas.
- Facilitates the sharing of resources.
- Allows for the more efficient use of technical assistance.
- Provides the moral support and accountability necessary for change to take place.
- Establishes a climate of cooperation and mutual benefit rather than competition and control.

Clusters have been most successful when they organize around a common purpose, have a long-term time commitment from the participants (a minimum of three years), when member schools and communities are similar, and when distance between members is reasonable to allow

for frequent meetings, and sharing of services and programs.

Examples

- Rutland, Ramona, and Oldham, South Dakota—three communities with a combined student enrollment of 343 students K-12—are served by one superintendent. Each of the communities continues to operate a school.

- Four school districts, Fayette, New Franklin, Pilot Grove and Slater, are members of the Mid-Missouri Restructuring Consortium which has formed a partnership with the Psychology Department, University of Missouri to provide psych interns who dispense specialized psychological services for the four districts.

- Guiltner, Harvard, Kenesaw and Trumbull, Nebraska, worked as a cluster to develop a K-12 curriculum for each of the school districts. While they worked through a common curriculum process, each of the districts ended up with their own unique curriculum.

- A cluster (rural schools were scattered across the state) of 14 schools in South Dakota linked up with the University of South Dakota to offer advanced courses in math and science. Course content was based on video tapes with backup by local teachers and university professors.

- *The West River Inter-active Video Consortium* in North Dakota shares specialized teachers electronically every period of the day.

- Twenty districts, three separate clusters in Northeast Kansas, are linked electronically with the Center for Rural and Small Schools, Kansas State University to provide technical assistance and staff training on instruction uses of micro-computers.

- The Greater Nelson County Consortium, North Dakota, has hired two guidance counselors, an art teacher, and a Spanish language teacher to rotate through and serve all of the member schools.

References

Barker, R., & Gump, P. (1964). Big school, small school. Stanford, CA: Stanford University Press.

Berry, W. (1990). What are people for? San Francisco: North Point Press. .

Boyer, E. (1983). High school. New York: Harper Row.

Bryk, A., Lee V., & Smith, J (19). High school organization and its effects on teachers and students: An interpretive summary of the research.

Chambers, J. (1981). An Analysis of school size under a voucher system, Educational Evaluation and Policy Analysis, 3, 29-40.

Fox, W. (1981). Reviewing economies of size in education, Journal of Education Finance, 6, 273-296.

Guthrie, J. (1980). Organizational scale and school success, In Education Finance and Organization Research Perspectives for the Future, Chapter 5. Washington D.C.: National Institute of Education.

Goodlad, J. (1984). A place called school. New York: McGraw Hill.

Kemmis, D. (1990). Community and the politics of place. Norman: University of Oklahoma Press.

Monk, D., & Haller, E. (1986). Organizational alternatives for small rural schools. Ithaca, NY: Cornell University

Orr, D. (1991). What is Education For? In Context, 27, 52-55.

Stegner, W. (1990). Wolf willow. Bergenfield, NJ: Penguin USA

Strange, M. (1991). Rural economic development and sustainable agriculture, Center for Rural Affairs, Walthill NE